

We claim:

1. An expression construct, which comprises the nucleic acid sequence coding for a shuttle peptide construct which is processable by yeast cells, has the formula  
5 (Sig-SP),  
and comprises in 5'-3' orientation the nucleic acid sequences coding for
  - a) a signal peptide (Sig) processably linked to
  - b) at least one shuttle peptide (SP) secretable by said yeast cells.
- 10 2. An expression construct as claimed in claim 1, wherein the shuttle peptide construct (Sig-SP) is derived from polypeptide processed by yeasts of the genus *Schizosaccharomyces*, in particular by *S. pombe*.
- 15 3. An expression construct as claimed in either of the preceding claims, wherein the shuttle peptide construct (Sig-SP) is derived from a pheromone pre-protein of a yeast, said pheromone (Pher) being derivable from the pre-protein and secretable by N- and C-terminal processing.
- 20 4. An expression construct as claimed in claim 3, wherein the signal polypeptide (Sig) is the proteolytically removable native signal polypeptide of the pheromone pre-protein.
- 25 5. An expression construct as claimed in claim 4, wherein the C-terminally processed pheromone (Pher) encompasses a C-terminal protease cleavage site.
- 30 6. An expression construct as claimed in any of the preceding claims, furthermore comprising the nucleic acid sequence coding for a homologous or heterologous target protein (Targ) processably linked to the C-terminus of the shuttle peptide construct (Sig-SP).
- 35 7. An expression construct as claimed in any of the preceding claims, encompassing the nucleic acid sequence coding for a fusion protein which is processable by yeast cells and has the formula

Sig-L1<sub>n</sub>-Pher-L2<sub>m</sub>-Targ

40 in which  
Sig, Pher and Targ are as defined above,

L1 and L2 are processable linkers and  
n and m are independently of one another 0 or 1.

8. An expression construct as claimed in any of the preceding claims, wherein  
5 the nucleic acid sequence coding for the shuttle peptide construct (Sig-SP) encompasses a signal polypeptide-coding sequence according to SEQ ID NO: 3 or a functional equivalent thereof which is operatively linked to the nucleic acid sequence according to SEQ ID NO:5, coding for a mature pheromone protein (P factor), or to a functional equivalent thereof.  
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9. An expression construct as claimed in any of the preceding claims, wherein  
the nucleic acid sequence coding for the shuttle peptide construct  
encompasses a sequence according to SEQ ID NO:1, extended at the 3' end,  
where appropriate, by the sequence coding for a target protein (Targ).  
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10. An expression construct as claimed in any of the preceding claims, wherein  
the target protein is a hydrophobin, in particular a class I hydrophobin.  
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11. An expression construct as claimed in claim 10, wherein the hydrophobin is selected from among SEQ ID NO: 14 (DewA), SEQ ID NO:19 (RdIA) SEQ ID NO:20 (RdIB) SEQ ID NO:21 (HYP1) and SEQ ID NO: 22 (HYP4) or is encoded by a nucleic acid sequence according to SEQ ID NO:13.  
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12. An expression vector, encompassing an expression construct as claimed in  
any of the preceding claims which is operatively linked to at least one  
regulatory nucleic acid sequence.  
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13. A recombinant microorganism, comprising at least one expression vector as claimed in claim 12 or an expression construct as claimed in any of claims 1 to 11, where appropriate stably integrated into the host genome.  
35
14. Microorganism as claimed in claim 13, selected from among yeasts.
15. A microorganism as claimed in claim 14, selected from among yeasts of the genus *Schizosaccharomyces*, in particular *S. pombe*.
16. A shuttle peptide construct (Sig-SP), processable by yeast cells and derived from a pheromone pre-protein of a yeast, wherein the pheromone is derivable from said pre-protein and secreted by N- and C-terminal processing.

17. A shuttle peptide construct as claimed in claim 16, comprising a signal polypeptide N-terminally processably linked to the C-terminally processed pheromone polypeptide.
- 5      18. A shuttle peptide construct as claimed in claim 17, wherein the signal polypeptide is the proteolytically removable native signal polypeptide of the pheromone pre-protein.
- 10     19. A shuttle peptide construct as claimed in claim 17, wherein the C-terminally processed pheromone polypeptide encompasses the C-terminal protease cleavage site.
- 15     20. A shuttle peptide construct as claimed in any of claims 16 to 19, encompassing an amino acid sequence as defined in SEQ ID NO:2 or a functional equivalent thereof.
- 20     21. A method for recombinant preparation of a target protein, which comprises culturing a microorganism as claimed in any of claims 13 to 15, expressing the nucleic acid sequence encoding said target protein and isolating the target protein secreted into the culture medium.
- 25     22. A method as claimed in claim 21, wherein the target protein is a hydrophobin as defined in claim 10 or 11.
- 30     23. A nucleic acid, coding for a shuttle peptide construct as claimed in any of claims 16 to 20.
24. A nucleic acid as defined in any of claims 1 to 11.
- 30     25. A hydrophobin, obtainable by a method as claimed in claim 22.
26. The use of a hydrophobin as claimed in claim 25 for surface treatment.
- 35     27. The use as claimed in claim 26, wherein the surface of objects selected from among glass, fibers, fabrics, leather, painted objects, films and facades is treated.
28. The use of a hydrophobin as defined in claim 10 or 11 for surface treatment of fibers, fabrics and leather.